

WHAT IS CLAIMED IS:

1 1. A method of accessing a data file in a distributed computing
2 environment, comprising:

3 from a source site, sending to a client site physical address meta data and
4 routing meta data for one or more logical file blocks of a data file in response to a
5 request from the client site for access to the data file.

1 2. The method of claim 1, further comprising storing at the source site a
2 data structure comprising physical address meta data and routing meta data for one
3 or more logical file blocks of the requested data file.

1 3. The method of claim 1, wherein the routing meta data comprises one
2 or more node addresses along one or more network routes between the client site
3 and the source site for the one or more logical file blocks of the requested data file.

1 4. The method of claim 3, wherein the routing meta data comprises next
2 hop node addresses from the client site for each of the one or more network routes.

1 5. The method of claim 3, wherein the routing meta data comprises
2 complete path information from the client site to the source site for each of the one
3 or more network routes.

1 6. The method of claim 1, wherein the meta data is sent to the client site
2 in accordance with a routable network protocol.

1 7. A method of accessing a data file in a distributed computing
2 environment, comprising:

3 at a client site, selecting one of two or more network routes over which a
4 logical file block of the data file is accessible based upon routing meta data
5 incorporated within a data structure containing file access meta data including
6 physical address meta data.

1 8. The method of claim 7, further comprising:

2 at the client site, selecting a network route over which to access the logical file
3 block based upon information relating to one or more transmission characteristics of
4 each of the two or more network routes.

1 9. The method of claim 8, wherein a network route is selected based upon
2 load characteristics of the two or more network routes.

1 10. The method of claim 8, wherein a network route is selected based upon
2 physical media characteristics of the two or more network routes.

1 11. The method of claim 7, further comprising accessing the logical file
2 block over the selected network route in accordance with a routable network
3 protocol.

1 12. A system for accessing a data file in a distributed computing
2 environment, comprising:

3 a source site file system configured to manage access to one or more logical
4 file blocks of a data file and to send to a client site physical address meta data and
5 routing meta data for the one or more logical file blocks in response to a request
6 from the client site for access to the data file.

1 13. The system of claim 12, wherein the source site file system is
2 configured to store a data structure comprising physical address meta data and
3 routing meta data for one or more logical file blocks of the requested data file.

1 14. The system of claim 12, wherein the routing meta data comprises one
2 or more node addresses along one or more network routes between the client site
3 and the source site for the one or more logical file blocks of the requested data file.

1 15. A system for accessing a data file in a distributed computing
2 environment, comprising:

3 a client site file system configured to select one of two or more network routes
4 over which a logical file block of the data file is accessible based upon routing meta

5 data incorporated within a data structure containing file access meta data including
6 physical address meta data.

1 16. The system of claim 15, wherein the client site file system is configured
2 to select a network route based upon information relating to one or more
3 transmission characteristics of each of the two or more network routes:

1 17. The system of claim 16, wherein the client site file system is configured
2 to select a network route based upon load characteristics of the two or more network
3 routes.

1 18. The system of claim 16, wherein the client site file system is configured
2 to select a network route based upon physical media characteristics of the two or
3 more network routes.

1 19. A data structure for accessing a data file in a distributed computing
2 environment, comprising:

3 physical address meta data and routing meta data for one or more logical file
4 blocks of the data file.

1 20. The data structure of claim 19, wherein the routing meta data
2 comprises one or more node addresses along one or more network routes between a
3 requesting client site and a source site for the one or more logical file blocks of the
4 data file.